Dear Giacomo et al.

Thank you for another great paper on this topic, i.e. the mismatch between NGHGI (directly induced sources and sinks + some indirectly induced sinks) and BM and DGVMs (directly induced sources and sinks). There is one fundamental issue that I would strongly suggest to be considered. The authors suggest to adjust the BMs and DGVMs towards the NGHGI. However, the other option is of course to adjust the NGHGI towards the BM + DGVMs by subtracting the indirectly induced sinks out of the NGHGI. While I assume the authors might argue in terms of the political acceptability of their approach (no country like to see somebody arguing that their official statistics have to be "corrected" somehow), there is a strong reason to perform the adjustments to the NGHGI. The remaining carbon budget under the IPCC is defined in terms of directly induced anthropogenic emissions. Thus, not adjusting the NGHGI makes them (in aggregate) not comparable to the remaining carbon budget, nor to all the myriad of scenarios in the WG3 IPCC emission database. Thus, I would suggest the authors should rephrase some of the article by fleshing out the DELTA, and leaving it to the user, in which direction the DELTA will be applied. One could apply it to the BMs and DGVMs (as the authors suggest) or one could apply it to the NGHGI (as I would argue is the better way to make national inventories comparable to the a broad wealth of IPCC science). Again, the ramification of the approach that the authors at the moment choose is that the non-adjusted NGHGI are not comparable to remaining carbon budgets, total CO2 emission milestones provided by the IPCC, nor net-zero CO2 timing dates. Only by "correcting" the NGHGI, so that they reflect total anthropogenic emissions (but not induced carbon cycle changes) can one establish the comparability.

As some of the authors well know, we had a lively debate in the UNFCCC negotiations particularly in the 2000s to only report the directly-induced anthropogenic emissions and removals. As we know, the optics are better for each country, and the methodology is difficult, when one does not separate out the indirectly induced CO2 removals. Nevertheless, the concept that we keep directly induced anthropogenic sources and sinks on one side of the equation and all the indirectly-induced changes of the carbon fluxes on the other is important for the long-term integrity of the system.

I don't think that change would require any major re-calculation. It is just a question of where the DELTA is applied, i.e. I argue for it to be (optionally at least) applied to the NGHGI.
Best,
Malte